

Phase	Vendor	Estimated Time (Days)
Order Processing	ASIC Provider	3
GDSII Preparation	ASIC Provider	19
Fabrication	Fab	61
Probe Card Making	Test/Assembly House	56
Package Design	Test/Assembly House	56
Wafer Transfer	Freight Forwarder	1
Packaging	Test/Assembly House	3
Parts Transfer	Freight Forwarder	
Test & Debug	ASIC Provider	5
Parts Transfer	Freight Forwarder	1
TOTAL		76

Title: Prediction Based Optimization of a Semiconductor Supply Chain Using an Adaptive Real Time Work-in-Progress Tracking System Application (September 2017). Michael E. Orshansky and Klaus ten Hagen

o.: 22272-06093

Order ProcessingFabless ASIC Provider5FabricationFoundry68Wafer TransferFreight Forwarder1Package/TestTest/Assembly House15Parts TransferFreight Forwarder1TOTAL90	Phase	Vendor	Estimated Time(Days)
Foundry Freight Forwarder Test/Assembly House Freight Forwarder	Order Processing	Fabless ASIC Provider	5
Freight Forwarder Test/Assembly House Freight Forwarder	Fabrication	Foundry	89
Test/Assembly House Freight Forwarder	Wafer Transfer	Freight Forwarder	1
Freight Forwarder	Package/Test	Test/Assembly House	15
	Parts Transfer	Freight Forwarder	1
	TOTAL		90

Title: Prediction Based Optimization of a Semiconductor Supply Chain
Using an Adaptive Real Time Work-in-Progress Tracking System
Applica
Chael E. Orshansky and Klaus ten Hagen
Docket 2272-06093

Step No.	Step Name	Step Group
1	WAF-1	Wafer Start
6	TRCH1-CMP	Wafer Start
, 11	SAC1-OX	Wafer Start
25	PO1-DP	Gate Mask
27	PO1-ET	Gate Mask
63	МЕ1-РН	Metal 1
64	ME1-ET	Metal 1
92	VA2-CMP	Metal 3
92	VA2-CMP	Metal 3
117	PA1-PH	Metal 6
120	WAT 2-1	WAT
121	SORT	SORT

FIG. 20

Title: Prediction Based Optimization of a Semiconductor Supply Chain
Using an Adaptive Real Time Work-in-Progress Tracking System
Applications: Michael E. Orshansky and Klaus ten Hagen
Dot 5.: 22272-06093

	Customer Order 1	Customer Order 2
Time Stamp	12:20 am, 06/20/01	12:20 am, 06/20/01
Foundry ID	5910	5920
Lot 1D	5910-1	5920-2
Current Step	WAF1-START	WAF1-START
Current Quantity	25	25
÷	•	•

Title: Prediction Based Optimization of a Semiconductor Supply Chain, Using an Adaptive Real Time Work-in-Progress Tracking System Appears: Michael E. Orshansky and Klaus ten Hagen Oc.: 22272-06093

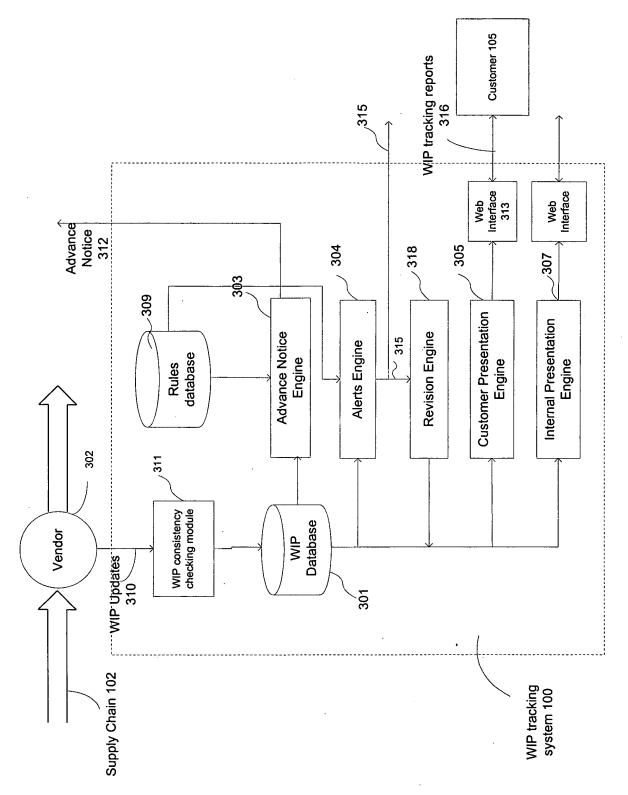
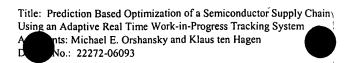
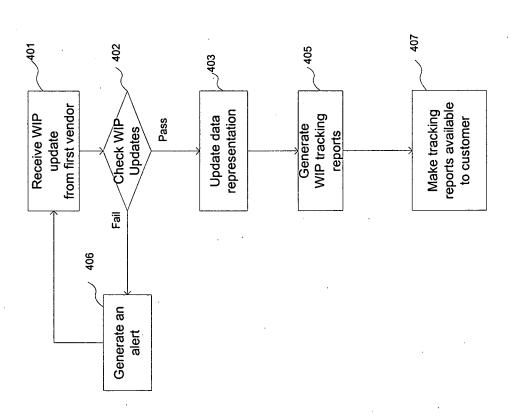
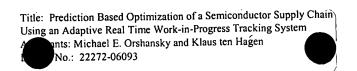


FIG. 3





iG. 4



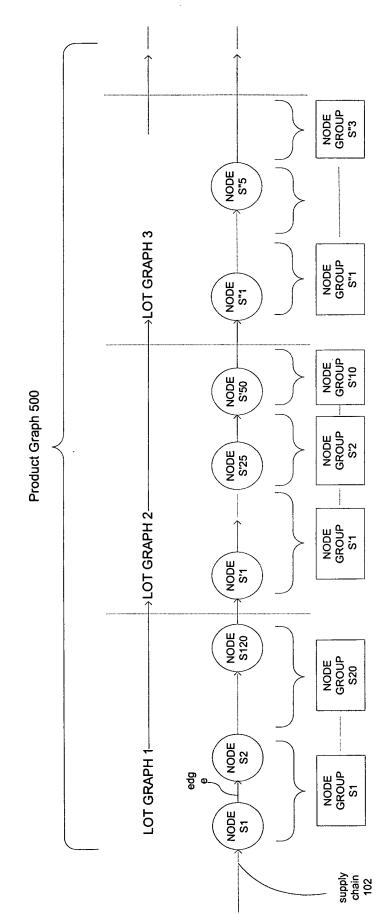
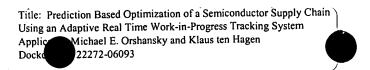


FIG. 5



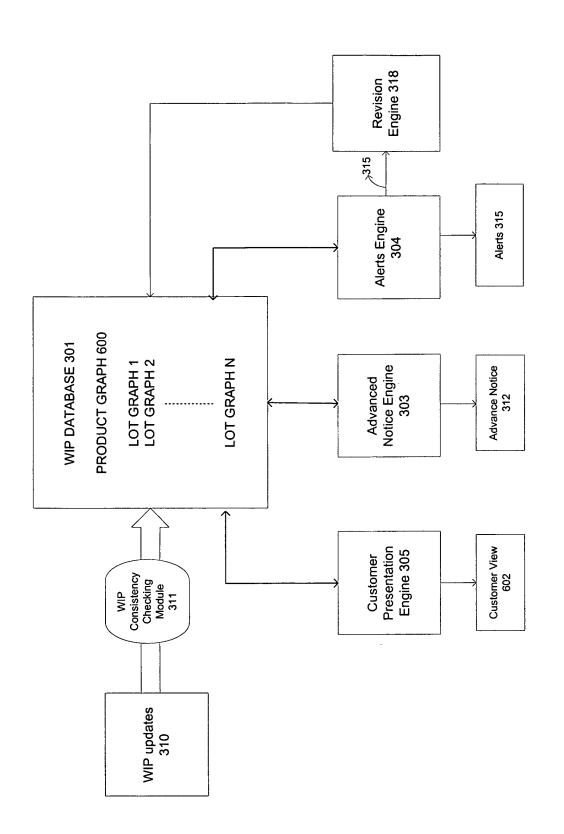
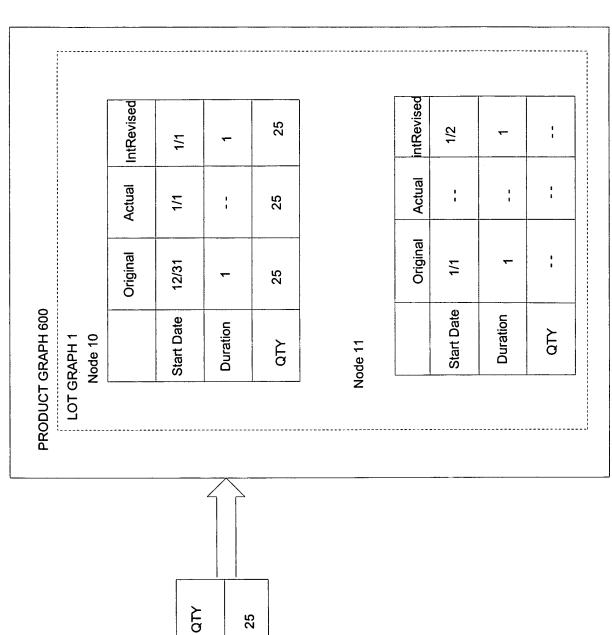


FIG. 6

Title: Prediction Based Optimization of a Semiconductor Supply Chain Using an Adaptive Real Time Work-in-Progress Tracking System Application Michael E. Orshansky and Klaus ten Hagen Dockd 22272-06093

		LOTG	LOT GRAPH 1 Node 10			
				Original	Actual	intRevised
			Start Date	12/31	1	12/31
			Duration	1		-
			QTY	ı	i	l .
			Node 11	·		
Process Flow 709 for Lot ID 702				Original	Actual	intRevised
Expected Conversion Duration	ersion		Start Date	1/1		1/1
200	g		Duration	-	I	-
200			ΔTY	ı	1	ı

Title: Prediction Based Optimization of a Semiconductor Supply Chain
Using an Adaptive Real Time Work-in-Progress Tracking System
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Step

Date

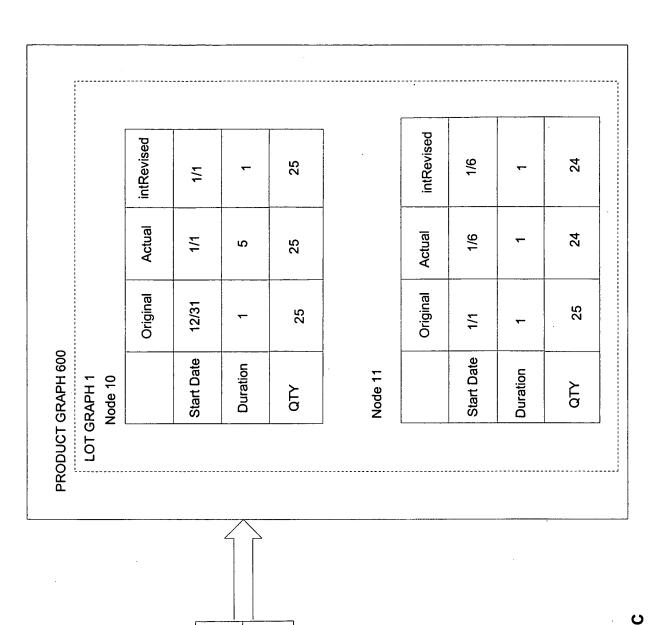
9

1,1

WIP Update 310A for Lot ID 702

:IG. 7

Title: Prediction Based Optimization of a Semiconductor Supply Chain
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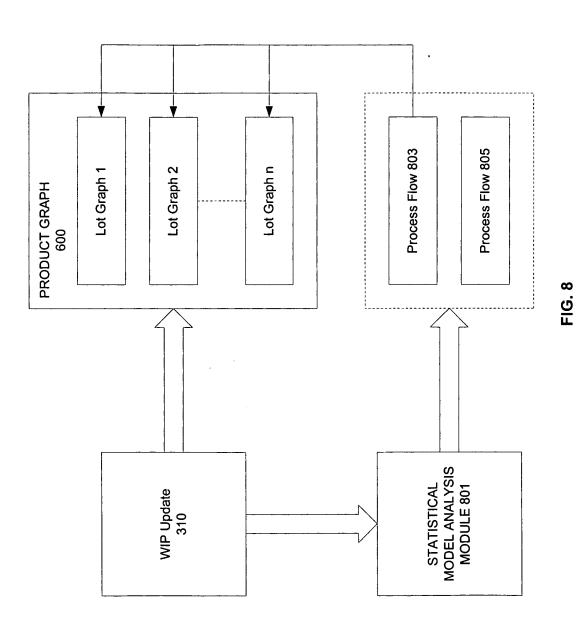
Step

Date

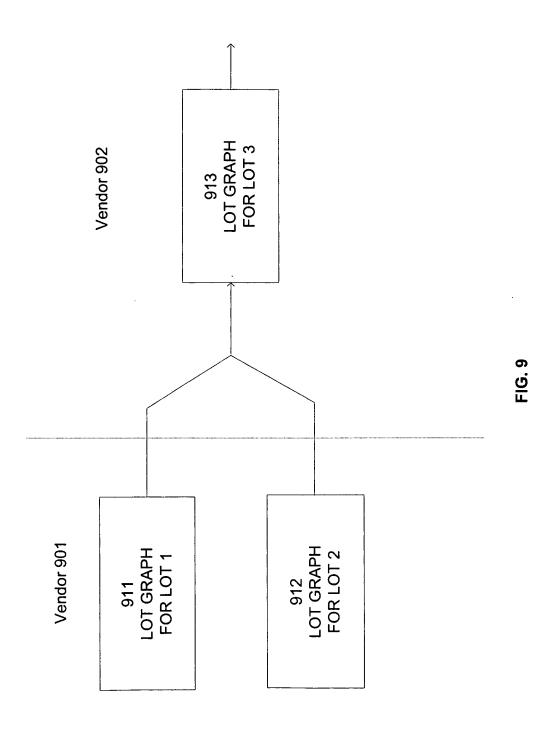
WIP Update 310B for Lot ID 702

FIG. 7C

Title: Prediction Based Optimization of a Semiconductor Supply Chain
Using an Adaptive Real Time Work-in-Progress Tracking System
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Using an Adaptive Real Time Work-in-Progress Tracking System
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Docket No. 2-06093



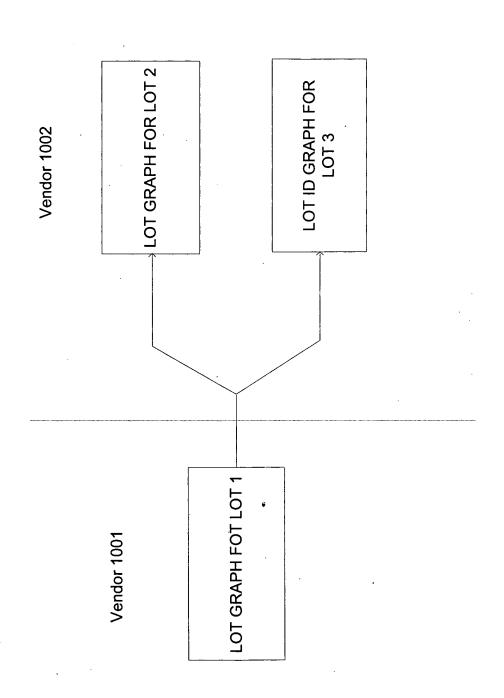
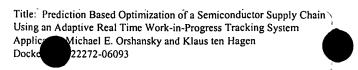


FIG. 1



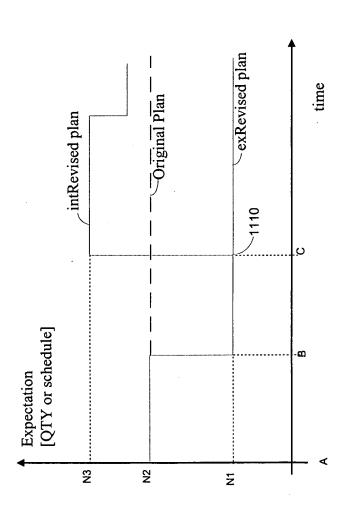
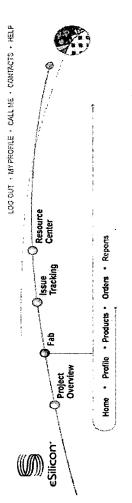


FIG. 11

Title: Prediction Based Optimization of a Semiconductor Supply Chain Using an Adaptive Real Time Work-in-Progress Tracking System chael E. Orshansky and Klaus ten Hagen Docket 2272-06093



DELMERY SCHEDLLE + OPOCR STATUS + W/P + LOTS-ON-HOLD + DELMERY + DELIVERY PERFORMANCE + SHISHENT HISTORY

Work in Progress

Download as CSV .

3			Foundry		т.	oundry						Assei	mbly
A TIPL LAIT	roccilis riccord	Water Start	er Start Gate Mask Metal I Metal 2 Metal 3 Metal 4	Metal 1	Metal 2	Metal 3	Metal 4	Metal 5	Metal 6	WATS	SORT	Assembly	Final Test
BC-E5910	BC-E5910 BigChip E5910 23.7	23,750	005'6	4,750	9,500	4,750	0	0	14,250		0	0	005'6
All montities are in "Dorts	Dorte"				ł.								

Quantities displayed in red indicate lot on hold.

BigChip E5910 Final Test yl dmass.A TAOS Manufacturing Stage Metal 5 훒 Wafer Start 1 16 Ø (spuesnoy) uj Expected Good Parts

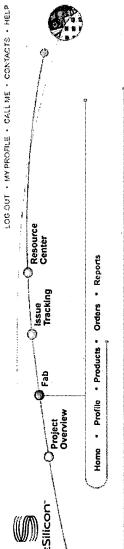
Report Lest Updated: The Jul 19 19:58,57 PDT 2001

eSillicon Access 1 JJ - Work in Progress Application (Build 9: 2011 - J7-13) Fri Juli 20 08:42:02 PD 7:2001

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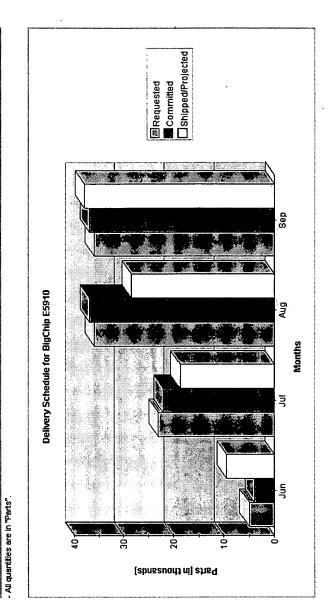
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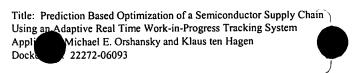
WIP . LOTS-ON-HOLD . DELIVERY PERFORMANCE . SIGNAINT HISTORY DELIVERY SCHEDULE . ORDER STATUS .

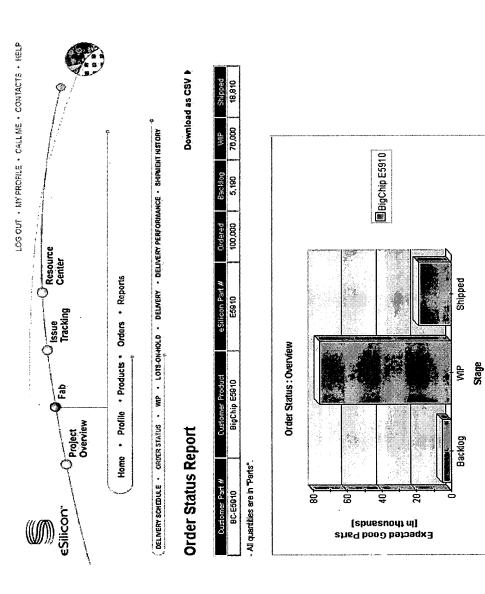
Month PS June June June June June September Requested 6,000 23,000 36,000 36,000 36,000 Committed 4,000 22,000 37,000 37,000 ShippedProjected 9,600 18,685 28,500 38,000 Running Total 9,500 28,199 69,595 94,685	Delivery Schedule		Product BigChip E5910 T Period Month	Period Month	Download as CSV ▶
5,000 23,000 36,000 4,000 22,000 37,000 8,500 18,685 28,600 9,500 26,185 56,685	Month >>	June	K (III)*	August	September
4,000 22,000 37,000 8,500 18,685 28,600 9,500 28,185 56,685	Requested	5,000	23,000	36,000	36,000
8,500 18,685 28,500 8,500 28,185 56,885	Committed	4,000	22,000	37,000	000'28
9,500 28,185 56,585	Shipped/Projected	009'8	18,685	28,500	38,000
	Running Total	005'6	28,185	589,685	94,685



Report Last Updated : Thu Jul 19 11:00:47 PDT 2001

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Report Last Updated: Thu Jul 19 11:01:45 PDT 2001

eSilicon Access 1.0 - Work in Progress Application (Build 9: 2001-07-13) Fri Jul 20 09:40:45 PDT 2001

FIG. 12C